

IN THE CLAIMS:

Please amend claim 1 as follows.

1. (Currently Amended) A vibration wave driving apparatus comprising:
a vibration member having a shape that is line-symmetrical with respect to two orthogonal planes;
electro-mechanical energy conversion elements which selectively excite in said vibration member three different types of bending vibrations, each of which respectively displace displaces in a direction in parallel with the two orthogonal planes; and
a driven member which is brought into contact with driving portions of said vibration member and driven by vibrations excited in said vibration member.
2. (Original) An apparatus according to claim 1, wherein said electro-mechanical energy conversion elements which can excite the three types of bending vibrations are arranged in the same plane.
3. (Original) An apparatus according to claim 1, wherein said vibration wave driving apparatus drives said driven member in an arbitrary direction in three dimensions by selecting and exciting two of the three types of bending vibrations.
4. (Original) An apparatus according to claim 1, wherein the driving portions of said vibration member protrude from said vibration member in a direction in which the three types of bending vibrations displace.

5. (Original) An apparatus according to claim 1, wherein two of the three types of bending vibrations have the same vibration pattern and are 90° out of phase from each other in the same plane.

6. (Original) An apparatus according to claim 5, wherein one of the two types of bending vibrations has a node at which an antinode of the other bending vibration is located.

7. (Original) An apparatus according to claim 1, wherein the three types of bending vibrations have the same natural vibration frequency.

8. (Original) An apparatus according to claim 1, wherein said driven member has a curved surface that comes into contact with the driving portions of said vibration member.

9. (Previously Presented) A vibration wave driving apparatus comprising:

a vibration member formed by a plate member and projections protruding from a surface of the plate member and having a shape that is line-symmetrical with respect to two orthogonal planes;

electro-mechanical energy conversion elements which are fixed to a surface of the plate member which is opposite the surface from which the projections protrude, and selectively excite three different types of bending vibrations that displace in a direction perpendicular to the plate member; and

a driven member which comes into contact with the projections of said vibration member,

wherein synthesis of two of the three different types of bending vibrations selectively drives said driven member in an arbitrary direction in three dimensions.

10. (Original) An apparatus according to claim 9, wherein said electro-mechanical energy conversion elements are arranged in the same plane.

11. (Original) An apparatus according to claim 9, wherein two of the three types of bending vibrations have the same vibration pattern and are 90° out of phase from each other in the same plane.

12. (Original) An apparatus according to claim 11, wherein one of the two types of bending vibrations has a node at which an antinode of the other bending vibration is located.

13. (Original) An apparatus according to claim 11, wherein the two types of bending vibrations differ in vibration pattern from the remaining type of bending vibrations.

14. (Original) An apparatus according to claim 11, wherein the two types of bending vibrations are excited by said same electro-mechanical energy conversion elements.

15. (Original) An apparatus according to claim 9, wherein the three types of bending vibrations have the same natural vibration frequency.

16. (Original) An apparatus according to claim 15, wherein a mass of said vibration member is increased at a position corresponding to an antinode of one of the three different types of bending vibrations which has a short wavelength.

17. (Original) An apparatus according to claim 9, wherein said driven member has a curved surface that comes into contact with the driving portions of said vibration member.

18. (Original) An apparatus according to claim 9, wherein said vibration member has a square outer shape.

19. (Original) An apparatus according to claim 18, wherein the projections are arranged at substantially middle portions on the respective sides of the square.

20. (Original) An apparatus according to claim 18, wherein the projections are arranged at corner portions of the square.

21. (Previously Presented) A vibration wave driving apparatus comprising:
a vibration member which has an electro-mechanical energy conversion element; and

a driven member which is in contact with the vibration member and is driven by a vibration excited on the vibration member,

wherein application of alternating signals to the electro-mechanical energy conversion element generates on a surface of the vibration member three bending vibrations having the same displacement directions but mutually different node positions.